

ABSTRACT OF THE DISCLOSURE

A design tool for assembling component objects to form an object-based computer system application includes a declarative user input interface mechanism and a design engine. The declarative user input interface mechanism provides an input structure for the input of user declarations specifying operative interactions between component objects. The design engine automatically generates, in response to input user declarations, an application design definition modelling an application infrastructure for managing component object interactions. An application design definition can reference a number of application view definitions, each having a number of fields, each field having associated therewith an application view field definition. An operation usage definition defines an effect a component object operation has on one or more of the application view definitions in response to user input declarations. An event definition defines an operation usage triggered by an application view definition event in response to input user declarations. The design engine automatically generates, in response to input user declarations, a match between an application view field definition and a parameter of an associated component object operation. A runtime tool includes an application engine which is responsive to an application design definition and is operative at runtime automatically to create application view instances from respective application view definitions for managing runtime component object interactions for the application.